The GAPS Experiment: A Search for Dark Matter Using Low Energy Antiprotons and Antideuterons [University of Hawaii Co-I]

Completed Technology Project (2017 - 2021)

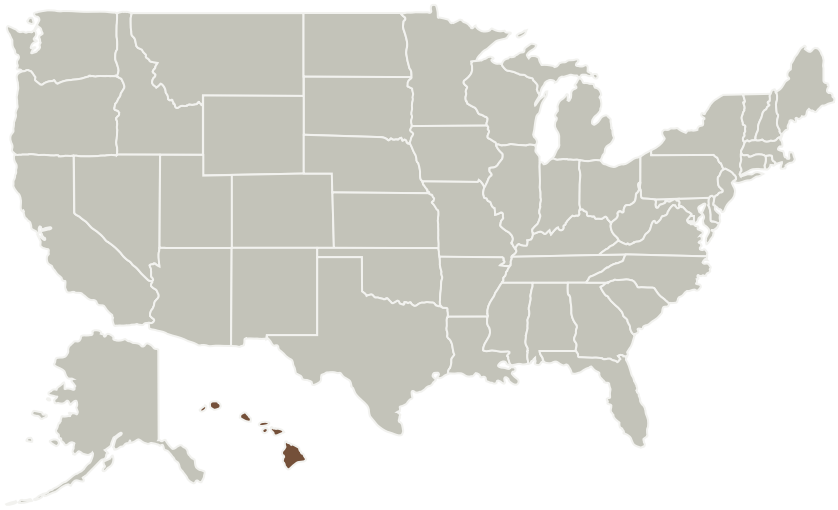
Project Introduction

This is a Co-I proposal in support of the PI lead proposal entitled "The GAPS experiment: a search for dark matter using low energy antiprotons and antideuterons" submitted by Prof. Charles Hailey, Columbia University. Our proposed program would support the Umiversity of Hawaii at Manoa tasks on the GAPS experiment as detailed in our task statement. The primary focus of this work is the calibration and test of the Si(Li) detector modules, instrument simulation and support of the flight program and scientific analysis.

Anticipated Benefits

The Astrophysics Research and Analysis program (APRA) supports suborbital and suborbital-class investigations, development of detectors and supporting technology, laboratory astrophysics, and limited ground based observing. Basic research proposals in these areas are solicited for investigations that are relevant to NASA's programs in astronomy and astrophysics, including the entire range of photons, gravitational waves, and particle astrophysics. The emphasis of this solicitation is on technologies and investigations that advance NASA astrophysics missions and goals.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
University of Hawaii Maui College	Lead Organization	Academia Alaska Native and Native Hawaiian Serving Institutions (ANNH), Asian American Native American Pacific Islander (AANAPISI)	Kahului, Hawaii

Primary U.S. Work Locations
Hawaii

Organizational Responsibility

Responsible Mission Directorate:

Science Mission Directorate (SMD)

Lead Organization:

University of Hawaii Maui College

Responsible Program:

Astrophysics Research and Analysis

Project Management

Program Director:

Michael A Garcia

Program Manager:

Dominic J Benford

Principal Investigator:

Philip A Von Doetinchem

Co-Investigator:

Georgette S Sakumoto

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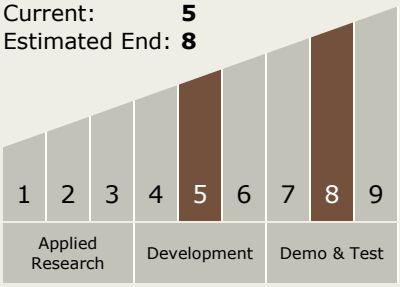
Technology Maturity (TRL)

Start: **5**
Current: **5**
Estimated End: **8**



Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.3 Simulation
    - TX11.3.5 Exascale Simulation

Target Destination

Outside the Solar System